REMARKS/ARGUMENTS

Claims 1-21, 23-24, and 31 stand rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,670,984 to Robertson et al. ("Robertson").

Claims 22 and 25-30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson as applied to claim 18 and further in view of United States Patent No. 5,731,805 to Tognazzini et al. ("Tognazzini").

Claims 1-8 and 10-31 have been amended to overcome these rejections, to correct dependencies, and/or to better define the invention. No new matter has been entered by these amendments. Please note that claim 9 has been cancelled without prejudice in order to expedite prosecution of this application. The Applicant reserves the right to pursue this cancelled claim in a continuing application or otherwise. Consequently, the Examiner is respectfully requested to consider the amended claims in view of the following comments.

As recited in amended claim 1, the Applicant's invention is directed toward a method for displaying a region of interest while transitioning between first and second locations for the region of interest within visual information on a display screen of a computer, comprising: applying a transformation to the visual information to improve visual detail in a border region of the region of interest by: creating a lens surface for the border region having a predetermined lens surface shape; and, creating a presentation by overlaying the visual information on the lens surface and projecting the lens surface with the visual information onto a plane in a viewer-aligned direction; and, displaying the presentation on the display screen.

The Applicant believes that amended claim 1 is patentable over Robertson and Tognazzini as these references do not teach or suggest the subject matter of amended claim 1. Similarly, the Applicant believes that amended claims 2-8 and 9-31, being dependent on amended claim 1 are also patentable over the Robertson and Tognazzini references.

In particular, the Applicant's invention includes a lens transformation that is entirely general with respect to lens shape. Unlike Robertson, the Applicant's invention is not restricted to truncated pyramids or multifaceted shapes. Moreover, and as will be described in more detail below, in the

Applicant's invention, the projection direction does not vary over the lens. Rather, the projection direction is uniform with respect to all points displaced by the lens and is viewer aligned.

For example, the generality of lens surface shape that the Applicant's invention provides allows for a curved side to the transition from the focal region of the lens to the surrounding context image. Such a curved transition is not possible using the Robertson method which employs flat side panels. As shown in FIG. 4(c), Robertson requires that the area surrounding the lens be subdivided into quadrilateral side panels. The Applicant's invention is applicable to any surface and, in general, does not require this subdivision. Please refer to the Applicant's specification at page 4, lines 22-24.

In addition, Robertson does not disclose projection onto a plane in a viewer-aligned direction. Note that with the Applicant's method of projection, all points being lensed are projected in the same direction towards the viewer. Please refer to the Applicant's specification at page 7, lines 24-27. In Robertson, the projection is normal to the base image and hence may typically project the region of interest (the lens plane in Robertson) out of the viewing frustrum unless the viewer is directly over the center of the region of interest. This limits the useful range of magnification if the viewer is off-axis from the region of interest. Consider FIG. 4(b) of Roberson and the following selections therefrom:

> "The viewpoint is a point above the truncated top of the pyramid, but in some embodiments, the viewpoint moves around based on the movement of the image lens in order to keep the lensed panel in view." (Col. 4, Lines 25-29.)
>
> "In some embodiments, the position of viewpoint V is modified by the user or is automatically modified so as to keep the projection of image lens 212 within the bounds of viewing plane 214." (Col. 6, Lines 44-47.)
>
> "At block 309, the viewpoint is adjusted if necessary. As can be seen from FIG. 4(b), if lens panel 212 is positioned high enough and far enough to one side, it will move outside the pyramid defined by viewpoint V and the base image 200, in which case the lens panel will not be visible." (Col. 8, Lines 63-67.)

Moreover, with respect to moving the region of interest, in Robertson, when it is necessary to move the region of interest, it is moved within the lensed area in such a way that the shape of the side panels require adjustment. Consider the following selection from Robertson:

> "At block 303, CPU 130 calculates the transforms of each of the panels and renders the transformed image onto the display...To perform transformation and rendering efficiently, every point of the image is not transformed, but instead only the vertices and an identity matrix are transformed. CPU 130 uses the locations of transformed vertices to determine the extent of a panel on the display surface, and use the transformed matrix to place points of the full image onto the display surface." (Col. 8, Lines 14-29.)

On the other hand, in the Applicant's invention, there is no need for the lens shape to change when a location for the region of interest is desired. In other words, the lens shape is not altered when the region of interest is moved from a first location to a second location within the visual information.

In Robertson, during the period when a lens is moved, "greeking" is used to reduce resolution in the side panels to improve performance. Apparently, the resolution in the lens panel is not reduced. Consider FIG. 8 of Roberson and the following selection therefrom:

> "FIG. 8 shows an display surface resulting from the application of a document lens to an image comprising multiple pages of text. As shown in FIG. 8, where the image is text, the text within the lens panel is rendered in the font for that text, but the text within the side panels may be rendered in a greeked font. In a greeked font, a line of text is rendered as a single line. Greeking is used where speed is important, such as where the lens is moving and many image frames must be generated quickly to provide the appearance of motion. In one embodiment, the text of the side panels is always greeked, while in another embodiment, the text in the side panels is greeked only when the lens is in motion." (Col. 10, Lines 50-61.)

The Applicant's method is fundamentally different. As recited in amended claim 1, when transitioning a region of interest from a first location to a second location, only a border region surrounding the region of interest is transformed. The visual information within the region of

interest itself is not subject to transformation during the transitioning. The visual information within the region of interest is transformed after the transition is completed. The border region may be a periphery of the region of interest. This improves rendering performance significantly. Please refer to the Applicant's specification at page 11, lines 7-17.

Furthermore, in Robertson, the border of the lens panel is not greeked, but rather the entirety of the side panels surrounding the lens panel is greeked. The lens border shown in FIG. 8 of Robertson as a bold line surrounding the lens panel is not a part of the surrounding side panels but is rather a separate rendering. Consider FIG. 7(a) of Robertson and the following selection therefrom:

> "Once rendered, the lens panel is displayed...Next, at block 358, the lens border is added to the displayed image. The lens border could be either a solid line or a shaded line." (Col. 10, Lines 6-10).

To conclude, the Applicant believes that amended claim 1 is patentable over Robertson and Tognazzini as these references do not teach or suggest the subject matter of amended claim 1. In particular, Robertson and Tognazzini do not teach or suggest "applying a transformation to the visual information to improve visual detail in a border region of the region of interest by: creating a lens surface for the border region having a predetermined lens surface shape; and, creating a presentation by overlaying the visual information on the lens surface and projecting the lens surface with the visual information onto a plane in a viewer-aligned direction". Similarly, the Applicant believes that amended claims 2-8 and 9-31, being dependent on amended claim 1 are also patentable over the Robertson and Tognazzini references.

The Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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